RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

FACT SHEET

Office of Water Resources – ISDS Program – March 2003

Home Improvement – DEM Alteration Application

When Is An Alteration Application Required?

A residential ISDS Alteration Application is required whenever an applicant proposes adding sewage flow resulting from the addition of *not more than one bedroom* or proposes modification or upgrading of an ISDS (change in type or modernization of an ISDS). You may be informed by the ISDS Program that an application for alteration is required in response to an application for System Suitability Determination (SSD), as described in section SD 2.00(a)(2) of the ISDS Regulations.

If more than one bedroom is to be added to the residence, an application for a New System will be required. Septic systems are sized using a daily sewage flow figure arrived at by multiplying the number of "bedrooms" by 150 gallons per day (2 persons per bedroom using 75 gallons per person per day). The ISDS Regulations define a bedroom as "any room in a residential structure which is greater than 100 square feet in area, which is susceptible to present or future use as a private sleeping area and which has at least one window and one interior method of entry and egress, excluding closets and bathrooms, allowing the room to be closed off from the remainder of the residence for privacy." It is presumed that all residences contain a living room, kitchen, bathroom, and at least one bedroom. So although there may be no increase in the number of people occupying the residence, the addition of one or more rooms meeting the definition of a bedroom enables the residence to be occupied by a greater number of people, thus increasing the daily sewage flow.

The DEM Application for Alteration

Applications for alteration of an ISDS must be prepared by a DEM-licensed Class II or Class III ISDS designer. The distinction between these two classes of ISDS licenses is described in the fact sheet Design Class Described and Section SD 25.02 of the ISDS Regulations. An Application for Alteration does not require preparation of a site evaluation report (the soil evaluation is a component of the site evaluation report) unless DEM specifies otherwise. Soil information for the design of a system under an alteration application is obtained directly by your designer and is reviewed with DEM prior to the application design step.

Locating and Contracting With Licensed ISDS Professionals

DEM maintains a list of licensed installers and designers and soil evaluators. You may also may search or query using an application called ISDS Application Search through another website named www.ri.gov (or at DEM home, click on "ISDS Application Search") to find designers who may be active in your neighborhood.

It is prudent to approach the process of selecting ISDS professionals, as you would any other major purchase. Seek price quotes from more than one of each contractor required (installer and designer). Be certain that proposals or contracts are based on the same scope of work (system type, components and landscaping or property restoration the contractor will provide etc.). If your site is difficult and/or may require an innovative or alternative (I/A) system, inquire as to whether the contractors have experience with this type of system. Contracts should articulate installation procedure, costs and payment schedule. Designers are required to witness and inspect installation of systems they design, so you should know if inspection services are included in the proposal or contract or will be part of a separate contract with the designer. Additionally, some soils require monitoring during the wet season to obtain required design information, you should know if the contract includes wet season monitoring if that should be necessary. Beware that situations may occur, or conditions may be encountered which will require cost adjustments. For example if bedrock is encountered during the alteration test hole procedure or during installation, ledge test holes must be excavated and costs will increase. It is important that the designer incorporate into the contract, situations which may cause an increase in costs to occur.

Request references and contact the parties provided by the contractors.

Permitting

1. Soil Test Hole Application Form (completed and submitted to DEM by Class II or III Designer)
This form notifies DEM that the designer, working on behalf of the property owner, wishes to conduct an alteration test hole procedure and identifies the property on which the soil testing will be conducted. The alteration test hole procedure is conducted to obtain design data including, depth to groundwater and soil characteristics needed for sizing the drainfield.
DEM Action: DEM schedules a day and time with the designer, so the soil test can be entered on the schedule of the appropriate staff person for witnessing. On the day of the testing, DEM will witness the excavation and the designer's interpretation of the data and provide an inspection report containing his conclusions.

2. Application for Alteration (Completed and submitted to DEM by Class II or III Designer)
Purpose: This form is used to obtain DEM's approval of a design for an alteration to a septic system and includes information about the site, the owner and the proposed use of the property. It is accompanied by plans depicting the location of the system and home on the site, current and proposed grading and the location of roads and sensitive receptors such as drinking water reservoirs and waterbodies, etc.
DEM Action: Reviewed by Department.

- DEM will **approve the application** if it is complete, in compliance with the regulations and there are no deficiencies or errors on the plan.
- DEM will **return the plan to the designer, unapproved**, if the application is not complete, or is not in compliance with the regulations or contains errors or deficiencies.

The design is required to meet the requirements of the ISDS Regulations to the greatest extent possible. If necessary, certain requirements under the regulations may be relaxed at DEM's discretion, provided that the applicant consider an approved innovative or alternative (I/A) technology that may allow the applicant to meet most of the requirements of these regulations. The protection of the public health and the environment must be given priority over all other considerations. DEM may request additional information or impose any requirement in the ISDS Regulations that may be deemed appropriate including request for variance described in section SD 20.00 of the ISDS regulations.

Using the Internet to Monitor Application Activity

ISDS Application activity may be monitored from your computer using "ISDS Application Search", a service available through ri.gov which provides ISDS application activity; the service is updated daily. To access this service from DEM home (www.state.ri.us/dem) select the link at the bottom of the screen titled "ISDS Application Search".

Approved Application

Your approved application will indicate any special terms of approval on the lower right side of the form. For example, some systems require DEM inspection of the bottom of the leaching area excavation; this is line-item "C" in the terms of approval section of the application, which when stamped "Approved" and signed by DEM is the "permit". The approved plans also bear an approved stamp and DEM signature. Once the ISDS design is approved by DEM, a copy of the approved permit is mailed to the owner, the designer and the city/town Building Official. The Building Official cannot issue a building permit until he/she receives a copy of the ISDS permit. The permit is valid for five (5) years from the date of approval.

System Installation

Following approval of the ISDS application, installation may begin. Your designer must call DEM to notify the ISDS program of the "Start of Construction", within 24 hours of beginning the installation. If DEM has indicated required inspections in the permit, the designer will be required to contact DEM to arrange for the required inspection(s). The components of the system will be delivered to the site and your installer will excavate the soil to accommodate the components of the system. Beware that conditions may be encountered during excavation that were not anticipated or uncovered during the alteration test hole procedure. Should such a situation occur, the job will be halted and additional testing or additional design work may be required before the installation can resume. Once construction of the system is complete your designer must certify to DEM that the system was installed in accordance with the approved design and meets DEM ISDS regulations.

Certificate of Conformance

Once your system is installed and DEM receives the certification from your designer that the installation is proper, the application process is complete! DEM will issue a Certificate of Conformance, providing a copy to the city/town Building Official, and the system may then be used. The certificate is required before a home can be occupied.

Operation and Maintenance

Operation and maintenance needs differ based on whether a system is a conventional or innovative or alternative system (components vary by type of system). However there are some fundamental operation and maintenance considerations to be abided by in all cases. Avoid excessive water use by distributing routine activities requiring a lot of water evenly over the week (laundry, running dishwasher) and quickly repairing leaky faucets and toilets. Septic systems function in-part due to the contribution of bacteria; heavy use of bleach or strong cleaning materials, as-well-as dumping any paint, organic solvents or other chemical preparations down a sink or toilet, can interfere with the proper functioning of your system. If depleted, the bacterial population will ordinarily self-restore naturally over time provided use of the chemical agent is discontinued.

DEM requires that owners with certain innovative or alternative (I/A) systems have a maintenance contract with a qualified service provider. DEM's requirements are specified in the system's certification. Detailed operating instructions for your I/A system should be available through your designer.

It is wise to have your system inspected regularly, and pumped as needed. One can determine whether the tank needs pumping by measuring the thickness of solids on the bottom of the septic tank and scum on the surface of the wastewater in the septic tank. Systems should be inspected no less frequently than once every five years. Some communities have wastewater management ordinances that may have specific maintenance requirements. Your local community should be contacted to obtain current information concerning any such requirements in your town.

Additional Information on Operation and Maintenance

Information on operation and maintenance of your septic system is available in the University of Rhode Island Cooperative Extension On-site Wastewater Training Center's information Sheet "*Maintaining Your Septic System*". Detailed information on maintaining a septic system is available in the DEM publication "Septic System Checkup: The Rhode Handbook for Inspection".